

ClaimsAdd
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1. An oxidation catalyst comprising oxides of (a) at least one element A selected from rare earths and yttrium, and (b) cobalt, said cobalt and element A being in such proportions that the element A to cobalt atomic ratio is in the range 0.8 to 1.2, at least some of said cobalt and element A oxides being present as a mixed oxide phase with less than 30% of the cobalt (by atoms) being present as free cobalt oxides.
2. An oxidation catalyst according to claim 1 wherein less than 25% of the cobalt (by atoms) is present as free cobalt oxides.
3. An oxidation catalyst according to claim 1 or claim 2 wherein less than 15% (by atoms) of the cobalt is present as cobalt monoxide.
4. An oxidation catalyst according to any one of claims 1 to 3 wherein less than 5% by weight of the composition is free cobalto-cobaltic oxide and less than 2% by weight is free cobalt monoxide.
5. An oxidation catalyst according to any one of claims 1 to 4 wherein part or all of element A is at least one element selected from yttrium, cerium, lanthanum, neodymium, and praseodymium.
6. An oxidation catalyst according to claim 5 wherein element A comprises a mixture of at least one variable valency element Vv selected from cerium and praseodymium and at least one non-variable valency element Vn selected from yttrium and a non-variable valency rare earth element.
7. An oxidation catalyst according to claim 5 wherein the atomic proportions of variable valency element Vv to non-variable valency element Vn is in the range 0 to 0.3.
8. A process for the manufacture of a catalyst according to any one of claims 1 to 7 comprising heating a composition containing oxides of cobalt and of at least one element A selected from rare earths and yttrium, to a temperature in the range 900-1200°C.
9. An oxidation catalyst comprising a primary support in the form of a mesh, gauze, pad, or monolith formed from a high temperature iron/aluminium alloy or a mesh, gauze, pad, monolith, or foam of a ceramic material, a secondary support in the form of an alkali-free alumina or lanthana wash

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coat on said primary support; and, supported on said secondary support, an active coating of oxides of (a) at least one element A selected from rare earths and yttrium, and (b) cobalt, said cobalt and element A being in such proportions that the element A to cobalt atomic ratio is in the range 0.8 to 1.2, at least some of said cobalt and element A oxides being present as a mixed oxide phase with less than 30% of the cobalt (by atoms) being present as free cobalt oxides.

10. The use of an oxidation catalyst as claimed in any one of claims 1 to 7 or claim 9 for the oxidation of ammonia.

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